Amendments to the Specification

Please replace the paragraph beginning on page 1, line 9 with the following amended paragraph:

Electrostatic Discharge (ESD) causing damage to a semiconductor device occurs in a circuit or an electrical insulator, which is different from the semiconductor device, and which is for example installed in equipment having the semiconductor device, or which may be a body of a human who handles the semiconductor device, and the like. The ESD is an important factor which affects the reliability of the semiconductor device. Accordingly, it is preferable to sufficiently increase threshold voltage to the ESD, for the purpose of securing stable operation.

Please replace the paragraph beginning on page 1, line 18 with the following amended paragraph:

A transistor for amplification positioned in an input section especially sustains the damage from ESD. The damage is generally considered as heat damage. In other words, electric current flows through a junction between an electrode metal plate and the semiconductor device due to the addition of ESD. Since the electric current increases the temperature of the junction, the resistance thereof decreases and causes overheating ~~overheat~~. Then, the junction is damaged [[with]] by melting.

Please replace the paragraph beginning on page 3, line 2 with the following amended paragraph:

In the electrostatic protective circuit shown in Fig. 1B, cathodes of protective diodes 6 and 7 are connected to the input terminal of the amplifier 1, which is to be protected and is composed of High Electron Mobility Transistors (HEMTs). The anode of the diode 6 is connected to the positive power terminal 2 while the anode of the diode 7 is connected to the negative power terminal 3. These diodes 6 and 7 are composed of a plurality of Schottky diodes connected in series, in such a manner as to ~~become~~ be in an off-state when normal input signals are inputted. The Schottky diode includes a HEMT formed in the same process as the amplifier 1 [[12]]. In the Schottky diode, the source and the drain of the HEMT short out.

Please replace the paragraph beginning on page 7, line 13 with the following amended paragraph:

The negative feedback amplifier is an amplifier for use in a high-speed optical fiber communication system or the like, and [[input]] which converts optical signals into electronic signals and amplifies the electronic signals ~~in a high-speed optical fiber communication system~~. The negative feedback amplifier has an input terminal 11 into which current signals are inputted from a photoelectric conversion element 9 such as a photodiode, the conductivity of which varies in accordance with the intensity of the optical signals Lin. The input terminal 11 is connected to [[a]] an amplifier (AMP) 12

which is to be protected and is composed of HEMTs. The output of the amplifier 12 is connected to an output terminal 13. Power supply voltages VDD and VSS are applied to the amplifier 12 from a positive power terminal 14 and a negative power terminal 15, respectively.

Please replace the paragraph beginning on page 8, line 1 with the following amended paragraph:

A feedback resistor [[16]] comprising resistors 16a and 16b in series is connected between the input terminal 11 and the output terminal 13. One end of the resistor 16a is connected to the input terminal 11, and one end of the resistor 16b is connected to the output terminal 13. The resistors 16a and 16b are connected at a node N1.

Please replace the paragraph beginning on page 8, line 7 with the following amended paragraph:

The cathodes of protective diodes 17 and 18 are connected to the node N1. The anodes of the diodes 17 and 18 are connected to the positive power terminal 14 and the negative power terminal 15, respectively. The diodes 17 and 18 for ESD protection comprise a plurality of diode elements for bias adjustment connected in series, in such a manner as to ~~become~~ be in an off-state when the normal input signals are inputted. The diode elements for bias adjustment, formed in the same process as

the amplifier 12, are Schottky diodes in which the gate length of the HEMT is elongated ~~elongates~~, and the source and the drain thereof short out.

Please replace the paragraph beginning on page 9, line 6 with the following amended paragraph:

The negative feedback amplifier operates in the same manner as a conventional amplifier. The current signals, inputted from the photoelectric conversion element 9 to the input terminal 11, [[is]] are converted into a voltage by passing through the feedback ~~resistor 16~~ resistors 16a and 16b. A feedback amplifier circuit including the amplifier 12 and the feedback resistors 16a and 16b ~~resistor 16~~ amplifies the voltage, and the amplified voltage is outputted to the output terminal 13. Since the diodes 17 and 18 for ESD protection are connected to the input terminal 11 through the resistor 16a, increase in input capacitance due to the diodes 17 and 18 is reduced, as compared with a case where the diodes 17 and 18 are connected directly between the input terminal 11 and the power terminals 14 and 15.

Please replace the paragraph beginning on page 10, line 17 with the following amended paragraph:

In this simulation, a GaAs/AlGaAs-based HEMT element is used as the amplifier 12. The gate width of the element is 100μm and the gate length is 0.1μm. The protective diodes 17 and 18, also based on GaAs/AlGaAs, are composed of diode

elements connected in series, the Schottky electrode of which (the anode electrode of the diode, namely corresponding to the gate electrode of the HEMT) is 30μm X 2μm. Fig. 3 shows characteristics of the negative feedback amplifier, when the whole resistance Rf of the feedback resistors 16a and 16b ~~resistor 16~~ is constant (350Ω), and the resistance Ra of the resistor 16a on an input terminal 11 side varies within the range of 0Ω to 150Ω.

Please replace the paragraph beginning on page 11, line 11 with the following amended paragraph:

In the negative feedback amplifier according to the first embodiment, as stated above, the protective diodes 17 and 18 are connected between the node N1 at some midpoint of the feedback resistors 16a and 16b ~~resistor 16~~ and power terminals 14 and 15. Therefore, there is an advantage that the negative feedback amplifier can effectively protect the amplifier 12 from the negative ESD with hardly reducing the band width.

Please replace the paragraph beginning on page 11, line 23 with the following amended paragraph:

The negative feedback amplifier is provided with protective diodes 19 and 20, in addition to the protective diodes 17 and 18 shown in Fig. 2. The protective diodes 19 and 20 are opposite in polarity to the protective diodes 17 and 18. The anodes of the

diodes 19 and 20 are connected to the node N1. The cathodes of the diodes 19 and 20 are connected to the positive power terminal 14 and the negative power terminal 15, respectively. The diodes 19 and 20, just as with the diodes 17 and 18, comprise a plurality of Schottky diodes connected in series, in such a manner as to become [[the]] to be in an off-state when the normal input signals are inputted. In the Schottky diode, the source and the drain of the HEMT, formed in the same process as the amplifier 12, short out.

Please replace the paragraph beginning on page 12, line 23 with the following amended paragraph:

In the negative feedback amplifier according to the second embodiment, as described above, the four units of protective diodes 17 to 20 are connected between the node N1 at some midpoint of the feedback resistors 16a and 16b ~~resistor 16~~ and power terminals 14 and 15. Therefore, there is an advantage that the amplifier 12 is certainly protected from the ESD irrespective of the polarity of the added ESD voltage, in addition to the advantage according to the first embodiment.

Please replace the paragraph beginning on page 14, line 18 with the following amended paragraph:

In the negative feedback amplifier of Fig. 6, the feedback resistor [[16]] comprises three resistors 16x, 16y, and 16z. The resistor 16x is connected between

the input terminal 11 and a node N11. The resistor 16y is connected between the node N11 and a node N12, and the resistor 16z is connected between the node N12 and the output terminal 13. The resistance of the resistor 16x is 10 to 100Ω, and the resistance of the resistor 16y is 0 to 100Ω. The total resistance of the three resistors 16x, 16y, and 16z is about 350Ω.

Please replace the paragraph beginning on page 16, line 10 with the following amended paragraph:

In the negative feedback amplifier according to the fourth embodiment, as described above, the feedback resistor [[16]] is divided <u>to include</u> [[into]] three <u>resistors 16x, 16y and 16z</u>. The cathodes of the protective diodes 17 and 18 are connected to the node N11 near to the input terminal 11, and the anodes of the protective diodes 19 and 20 are connected to the node N12 far from the input terminal 11. Accordingly, there is an advantage that the reduction in the band width is alleviated as compared with the second embodiment, in addition to the advantage that the amplifier 12 is certainly protected from the ESD irrespective of the polarity of the added ESD voltage, as in the case of the second embodiment.

Please replace the paragraph beginning on page 18, line 14 with the following amended paragraph:

(a) The resistance of the feedback resistor [[16]] and the resistors 16a, 16b and

the like constituting the feedback resistor [[16 is]], are not limited to the value described above.